

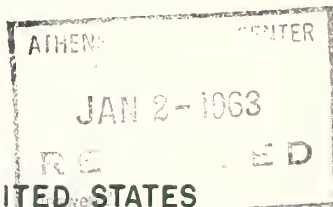
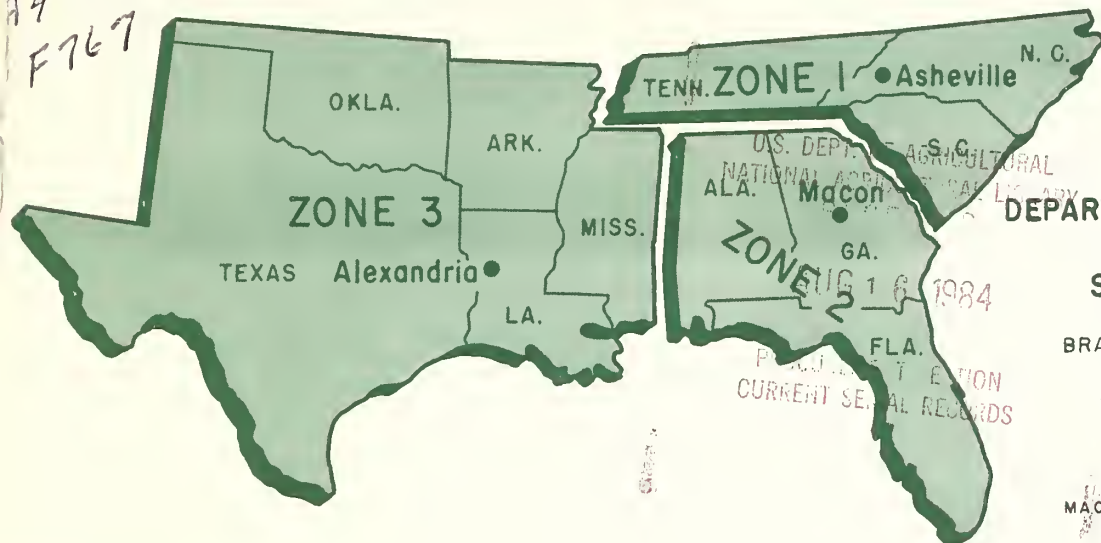
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SOUTHERN FOREST PEST REPORTER

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UNITED STATES
DEPARTMENT OF AGRICULTURE
FOREST SERVICE
SOUTHERN REGION

BRANCH OF FOREST INSECT

AND DISEASE CONTROL

FIELD OFFICES

ASHEVILLE, N.C.

MACON, GA. ALEXANDRIA, LA.

Number 4

50 SEVENTH ST. N.E. ATLANTA, GEORGIA 30323

December, 1963

SUMMARY OF CONDITIONS FOR 1963

- ... Southern pine beetle declined from a major epidemic in 1962 to localized destructive outbreaks in a 7-state area in 1963. The potential for a general outbreak remained during the year.
- ... The black turpentine beetle continued as a major destructive pest in cut-over and logged pine areas throughout the Region. Ips avulsus replaced southern pine beetle as the primary causal agent of pine mortality in portions of South Carolina.
- ... Pine reproduction weevils caused considerable loss in young pine plantations in North Carolina.
- ... Balsam woolly aphid infestations now occur in 4 out of the 5 spruce-fir type stands in the North Carolina-Tennessee area.
- ... Elm spanworm outbreak declined considerably in 1963. Egg parasitism and late spring frost were contributing factors.

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STATUS OF FOREST INSECTS

SOUTHERN PINE BEETLE, Dendroctonus frontalis Zimm.

- ALABAMA Southern pine beetle populations reached epidemic proportions on the Talladega National Forest during the fall of 1962. However populations declined following a very severe winter. Gradual buildups continued in 1963 in localized areas. Aerial surveys during September revealed 6.2 infested trees per 1,000 acres. Population increases occurred in Perry, Hale, Chilton, Bibb and Tuscaloosa Counties. A decrease in activity was observed in the fall with aerial surveys in October recording 0.87 infested trees per 1,000 acres.
- GEORGIA Beetle activity on the Chattahoochee National Forest declined in 1963 following thorough winter control operations and some brood mortality probably resulting from cold temperatures. However, minor epidemic populations still exist in the area.
- The beetle population on the Oconee National Forest in Putnam, Jones and Jasper Counties declined in mid-summer and were relegated to secondary invaders following a vigorous Ips avulsus buildup during drought conditions.
- The Georgia Forestry Commission reports that the southern pine beetle is now endemic in all counties included in the original control project.
- LOUISIANA The southern pine beetle was discovered in Allen Parish in October. This is the first known occurrence of the beetle in the State since 1957. The current infestation is confined to 35,000 acres of loblolly pine-hardwood type in the West Bay area south of Elizabeth. The initial discovery was a spot of approximately 150 trees. Additional infestations were found to be vigorous, and the potential for a tremendous population increase exists. All known spots have been treated.
- MISSISSIPPI Southern pine beetle activity on the Homochitto National Forest increased slightly during the summer but remained at a relatively low level. A recent report from District personnel indicates increased activity this fall on the Homochitto Ranger District.

SOUTHERN PINE BEETLE (Cont'd)

NORTH CAROLINA

The southern pine beetle continued to be active in several upper Piedmont counties of North Carolina, but at a lower level than in 1962. New centers of infestation were found in Vance, Warren, Gates and Nash Counties. Organized salvage and chemical control efforts were conducted in this area by the North Carolina Division of Forestry.

SOUTH CAROLINA

A decline in southern pine beetle activity was evident in the upper Piedmont of South Carolina in June and July. Some 26,000 trees were infested during this period as compared to 95,000 infested trees the previous year. A continued decline occurred during the late summer and early fall, and large spots were restricted to wet sites adjacent to stream bottoms on the Tyger and Enoree Districts of the National Forests in South Carolina. D. frontalis, in many cases, was behaving as a secondary insect in these areas; attacking trees whose crowns were infested with Ips avulsus (Eichh.).

Beetle activity increases on the Francis Marion National Forest on the South Carolina coastal plain, where an estimated 17,000 trees were infested by this insect during July. Suppression programs are in progress over the entire forest.

TEXAS

Southern pine beetle activity continues at a relatively low level in southeast Texas. However, localized population increases were reported during the year from the epidemic area.

An aerial evaluation survey of southeast Texas by the Forest Insect and Disease Control Branch, U. S. Forest Service, in September showed that the number of southern pine beetle infested trees per 1000 acres was approximately 9 as compared to 8 for the June survey.

Aerial surveys made in the late fall on the National Forests in Texas indicate that the southern pine beetle is at an endemic level. The number of infested trees per 1000 acres was determined to be approximately 1 on the Big Thicket Ranger District following a survey in June, but no southern pine beetle infested trees were found on the District during an August survey.

BLACK TURPENTINE BEETLE, Dendroctonus terebrans (Olivier)

ALABAMA GEORGIA	Black turpentine beetle populations in north and central Alabama and Georgia are generally at a low level; however, new infestations requiring control measures were reported on the Talladega National Forest, Alabama, in Perry, Chilton, Bibb, Cleburne and Calhoun Counties. Activity continued to center in logging areas, although a number of attacks were found in trees bordering southern pine beetle spots.
ARKANSAS	There has been a general decline in beetle populations since early summer, but activity continues following logging in some areas (Arkansas Forest Pest Report). Increased turpentine beetle activity was reported on the Mena District, Ouachita National Forest, in August.
FLORIDA	The Florida Forest Service reports that the black turpentine beetle is still active in some naval stores but has declined from 1962 levels.
LOUISIANA	Turpentine beetle activity is at a relatively low level on the Kisatchie National Forest this year except on the Winn and Catahoula Ranger Districts. Increased activity has been noted in these Districts following logging.
MISSISSIPPI	Turpentine beetle activity has increased on the Homochitto National Forest this year but has generally declined or remained static on the other National Forests in Mississippi.
NORTH CAROLINA	Activity was reported in pond pine following cutting in Onslow and Jones Counties. Scattered activity was also found in Lincoln County and Lee County with some spots containing up to 20 infested trees. An area, one quarter acre in size, was reported from Orange County where this insect was associated with <u>Ips</u> spp. <u>D. terebrans</u> was also associated with <u>ips</u> in Vance, Warren, Northhampton, Gates and other counties in eastern North Carolina. (North Carolina Division of Forestry)
SOUTH CAROLINA	<u>D. terebrans</u> was associated with the southern pine beetle and <u>ips</u> as a secondary invader in South Carolina.

BLACK TURPENTINE BEETLE (Cont'd)

TEXAS Infestations were reported from Angelina, Hardin, Houston, Liberty, Montgomery, Polk, Tyler, Shelby and Walker Counties. Some mortality continues in most southerly counties. (Texas Forest Service)

Activity continues at a relatively low level on the National Forests in Texas, except on the Raven District where heavy attacks have occurred following logging.

IPS ENGRAVER BEETLE

ALABAMA
GEORGIA Ips spp., primarily avulsus, activity increased in some areas in south Alabama and south Georgia during April and May following an unusually dry spring. Populations decreased with ample rainfall during June and July. However, an abnormal number of lightning strikes during this period followed by an extended late summer drought period again triggered localized epidemic populations. Some ips spots were found in conjunction with Fomes annosus infected trees.

FLORIDA A systematic aerial survey of the State of Florida made by the Florida Forest Service revealed .0144 pine trees dead per acre. Most of this was attributed to Ips spp., and was a slight increase over 1962 mortality. However, the situation is still classed as endemic with only Jefferson, Madison, Hamilton, Taylor, Dixie and Lafayette Counties alerted for possible localized outbreaks.

LOUISIANA Ips activity increased over the state early this year but declined with increased rainfall in early summer. Some increase in activity has been observed on the Winn Ranger District, Kisatchie National Forest, this fall.

MISSISSIPPI Ips activity increased on the Homochitto and Bienville National Forests and scattered areas throughout the state early this year.

Aerial surveys of the Bienville and Desoto National Forests in August showed a decline in ips populations after reaching a peak earlier in the year.

IPS (Cont'd)

NORTH CAROLINA

Ips avulsus was causing mortality in spots over an area including Vance, Warren, Northhampton, and Gates Counties. In many cases, up to 50 trees were killed in one spot.

Ips activity was reported around the outer fringe of the southern pine beetle outbreak, in the upper Piedmont counties of Randolph, Stanly, Cabarrus, Anson, Montgomery, Lincoln, Rowan, Carteret and Iredell. Increased activity was reported from a number of areas during September and October, and was particularly vigorous in Moore County in and around an area burned in April. (North Carolina Division of Forestry)

SOUTH CAROLINA

Ips avulsus replaced the southern pine beetle as the primary invader on the Tyger and Enoree Districts of the National Forests in South Carolina during September and October, and was causing considerable damage in that area.

TEXAS

Ips populations have generally declined, but increased activity was reported near Wakefield, Polk County, in September. (Texas Forest Service)

PINE REPRODUCTION WEEVILS

NORTH CAROLINA

Damage caused by the pales weevil, Hylobius pales (Hbst.), resulted in the destruction of two-thirds of the seedlings in an 8-acre loblolly pine plantation on the Croatan National Forest. This plantation, cut the previous fall, is in a drained pocosin site. Weevil broods probably developed in residual pine stumps and the emerging adults attacked the newly planted seedlings.

The pales weevil damaged several thousand acres of one-year-old loblolly pine plantations on private lands in Columbus County. In addition, feeding damage also occurred on 2 and 3-year-old trees. (North Carolina Division of Forestry)

PINE SAWFLIES, Neodiprion spp.

- ARKANSAS The loblolly pine sawfly, Neodiprion taedae linearis Ross, caused heavy defoliation around Hampton this spring. Lighter defoliation was observed near El Dorado and Fordyce.
- FLORIDA The 4000 acre infestation of Neodiprion excitans reported in the fall of 1962 defoliating mature loblolly pine in the Gainesville, Florida, area continued to feed through the the winter in scattered colonies. During the year, the outbreak deteriorated to an endemic level with little or no tree mortality occurring.
- NORTH CAROLINA Pine sawflies were scattered and at a low level in North Carolina during 1963. Immature larvae of a loblolly pine sawfly, probably Neodiprion taedae taedae, were slightly more numerous than during 1962 in Craven County. The Virginia pine sawfly, N. pratti pratti, was reported from Granville, Vance, Rockingham and Guilford Counties. (North Carolina Division of Forestry)

BALSAM WOOLLY APHID, Chermes piceae (Ratz)

- NORTH CAROLINA & TENNESSEE The balsam woolly aphid was detected in the vicinity of Mt. Mitchell in 1957, and has been known to occur throughout the Black Mountains of western North Carolina since 1958. Increased fir mortality was evident in this area during 1963 and is now present over the entire red spruce-fraser-fir type in this area.

Surveys to determine the extent of balsam woolly aphid infestation in North Carolina and Tennessee were completed in October. These surveys indicate that this insect is now present in 4 of the 5 native spruce-fir stands in this area. Three centers of multiple tree infestation were detected on Roan Mountain in addition to the infestation found in 1962. Two areas of infestation were detected on Grandfather Mountain, and an infestation comprising approximately 20 acres was detected in an isolated spruce-fir stand near Mt. Sterling in the Great Smoky Mountains National Park. The spruce-fir type in the Balsam Mountains is now the only area in this region free from aphid infestation.

ELM SPANWORM, Ennomos subsignarius (Hbn.)

There was an unexpected, abrupt decline in elm spanworm activity in the Southern Appalachian Mountains during 1963, with a total area of some 667,000 acres of infestation. Over half of this acreage, approximately 432,000 acres was classed as "very light" where damage was restricted to minor shot holing and was not visible from the air.

During 1963, the center of defoliation was in eastern Macon County, Swain County, the eastern half of Graham County, North Carolina, and a small area in northern Rabun County, Georgia.

Factors responsible for the decline of the elm spanworm included an egg parasite, Telenomus alsophilae Vier., which parasitized an estimated 57 percent of the eggs during 1963, and a late spring frost which occurred at the time of egg hatching.

FOREST TENT CATERPILLAR, Malacosoma disstria (Hbn.)

ALABAMA In 1963, forest tent caterpillar defoliation substantially increased in the Mobile, Tombigbee, and Alabama River bottoms between Mobile and Jackson, Alabama. Aerial surveys over one-third million acres of susceptible type revealed that 172,300 acres of water tupelo and sweet-gum had been defoliated. This was almost three times the acreage defoliated in 1962.

	<u>1962</u>	<u>1963</u>
Acres heavy defoliation	12,320	20,640
Acres partial defoliation	<u>48,400</u>	<u>151,660</u>
Total acres defoliated	60,720	172,300

LOUISIANA There was a substantial increase in the area defoliated by the forest tent caterpillar this spring. Heaviest defoliation occurred south of Baton Rouge and west of New Orleans.

WALKINGSTICK, Diapheromera femorata (Say)

ARKANSAS &
OKLAHOMA

The walkingstick is active again this year in the mountains of Arkansas and Oklahoma. An aerial survey of the Ouachita and Ozark National Forests was made in October of this year, and approximately 88,000 acres were found to have been defoliated by this insect. Defoliation is heaviest in western Arkansas and eastern Oklahoma. Infestations have increased this year on the Kiamichi and Mena Ranger Districts, Ouachita National Forest and the White Rock District, Ozark National Forest, but have declined slightly in some other areas.

MISCELLANEOUS INSECTS

The fall webworm, Hyphantria cunea, was observed over much of North Carolina, South Carolina, northwestern Arkansas and heavy in the Pea Ridge National Military Park. However, colonies of larvae were not as numerous in the Carolinas as in 1962. Defoliation by the variable oak leaf caterpillar, Heterocampa mantee (Dblly.), and oak worms, Anisota spp., is widespread throughout central Louisiana, the Kisatchie National Forest and portions of eastern Texas.

Heavy infestations of the white pine bark aphid, Pineus strobi (Htg.), occurred on white pine stands in western North Carolina. Infestations of this insect were unusually heavy. A weevil, Pissodes spp., infested 2 to 5-year-old loblolly pine seedlings in drained swamplands on the Croatan National Forest and private lands near Bolton, North Carolina.

STATUS OF FOREST DISEASES

FOMES ANNOSUS ROOT ROT, Fomes annosus (Fr.) Cke.

REGION-
WIDE

Annosus root rot remains one of the principal causes of concern in the Region. Reports of infections have been

FOMES ANNOSUS ROOT ROT (Cont'd)

received from throughout the Region as increased awareness of the disease becomes more evident. Infection in varying degrees of severity is known to occur on loblolly, longleaf, pitch, pond, shortleaf, slash, white and Virginia pines. Fomes annosus can probably be found to a limited extent anywhere in the Region wherever pine plantations have been thinned for 2 or more years.

FUSIFORM RUST, Cronartium fusiforme.(A. &K.) Hedgc. & Hunt

ALABAMA, FLORIDA, GEORGIA, LOUISIANA, MISSISSIPPI, SOUTH CAROLINA & TEXAS	Fusiform rust is the number one disease of slash and loblolly pine as it attacks trees of all ages. In susceptible areas, it is not uncommon for plantations to be more than 70 percent infected during the first 5 years after planting. Stem cankers formed in the first 5 years often result in mortality, breakage or malformation.
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OAK WILT, Ceratocystis fagacearum (Bretz.) Hunt

ARKANSAS	Oak wilt is showing an increase in some areas, both in number of trees infected and areas of intensity. Oak wilt has not been found on the Ozark-St. Francis National Forest during the last four seasons.
NORTH CAROLINA	Aerial detection surveys show a slight increase in the number of infected trees over 1962, but the trend of overall reduction continues. The number of trees found during the past 2 years has been considerably less than during the 5 preceeding years. Oak wilt infection has been found in Buncombe, Haywood, Jackson, Madison and Swain Counties, but during the last 2 years has only been present in Buncombe, Haywood and Madison Counties.
OKLAHOMA TENNESSEE	Oak wilt is present in 2 counties in eastern Oklahoma. The annual detection survey in Greene and Washington Counties indicates that the incidence of oak wilt is approximately the same as in 1962. Control, as practiced in Greene County, has had little effect on the number of initial infections occurring in the country. The number of new infection centers in the 2-county area (39) was almost identical with the number of old centers that were reactive (40).

OAK WILT (Cont'd)

Detection surveys and surveillance in Alabama, Georgia and South Carolina did not discover any positive oak wilt centers.

WHITE PINE BLISTER RUST, Cronartium ribicola Fisher

NORTH
CAROLINA &
TENNESSEE

An inspection of white pine blister rust infections on Ribes spp. indicates that the infection intensity is slightly higher on this host than in 1962. A survey of blister rust infection rates begun in Region 7 has been extended into the Southern Region. Guides will be developed from this economic study to help distinguish areas where control can be justified. Zone personnel made pre-planting inspections of areas scheduled to be planted on National Forest land and North Carolina personnel inspected areas to be planted on State and private land. North Carolina annually distributes approximately 5,000,000 seedlings in the western counties.

BROWN SPOT, Scirrhia acicola (Dearn.) Siggers

Brown spot was generally prevalent over the Region in the longleaf pine areas, but was serious only in a few locations probably due to the dry, late summer and fall.

LITTLELEAF DISEASE

ALABAMA,
GEORGIA,
NORTH
CAROLINA,
SOUTH
CAROLINA &
TENNESSEE

Littleleaf disease is one of the major problems in shortleaf pine management throughout the Piedmont of the Southern Region. Littleleaf is present in about 15,000,000 acres of commercial shortleaf east of the Mississippi River. On 5,000,000 acres, the disease is severe and responsible for readjustment of management plans. The disease has not been confirmed west of the Mississippi River.

SOUTHERN CONE RUST, Cronartium strobilinum (Arth.) Hedge. & Hahn

GEORGIA, Southern cone rust attacking cones of slash and longleaf
FLORIDA, pine was light to heavy in sections of Georgia, Florida
ALABAMA, and the Gulf States during 1963. The alternate stage of
MISSISSIPPI & cone rust is on evergreen oaks. Infection takes place
LOUISIANA early in January or February at the time of pollination.

RED ROOT AND BUTT ROT, Polyporus tomentosus var. circinatus Fr.

GEORGIA Red root and butt rot was identified in a 13-year-old slash
pine plantation in Emanuel County, Georgia. Diseased trees
were generally scattered throughout the plantation. Sporophores were observed on trees with basal fusiform cankers. Fruiting was also observed on living slash pine with basal cankers in Johnson and Chandler Counties. This report of red root and butt rot adds a new disease to be considered in slash pine plantations. (Dr. John S. Boyce, Jr., University of Georgia.)

LOBLOLLY PINE DIE-OFF (Cause unknown)

ALABAMA Loblolly pine die-off, a disease of mature loblolly pine in
central Alabama, continues to cause mortality in the infected
area. An estimated 250,000 acres on Federal and private
lands are affected.

FOLIAGE DISEASES (Pine)

Needle cast caused by Hypoderma lethale Dearn. and needle rust, Coleosporium spp., appeared sporadically throughout the Region on various pine species.

More detailed information can be obtained by writing to the Forest Insect and Disease Control Branch Zone Offices listed below or to the Atlanta office:

ZONES

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